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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,001	07/06/2001	Alexander Ganin	15-XZ-5881	8764

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EXAMINER

CHURCH, CRAIG E

ART UNIT PAPER NUMBER

2882

DATE MAILED: 05/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

Applicant(s)

Examiner

Group Art Unit

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 2/25/02
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-21 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-21 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Applicant Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to provide an adequate written description. The meaning and significance of "servo-tomo function" are not defined.

Claims 1-9 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

Claims 1-9 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification. The meaning and significance of "servo-tomo function" are not defined.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-5, 8 and 9 are rejected under 35 U.S.C. § 103 as being unpatentable over Khutoryansky et al (5734694). Lines 50 of column 4 to 38 of column 6 explain operation of the disclosed tomographic system which includes presetting parameters such as sweep angle, fulcrum (focal plane), slice thickness and speed. Switches 716 </> specify left or right scanning, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to operate them in sequence since the source scanning in either direction is limited.

Claims 6, 7 and 10-21 are rejected under 35 U.S.C. § 103 as being unpatentable over Khutoryansky et al (5734694) in view of Sata (5,412,702) newly cited. Sata teaches an x-ray tomograph equipped with a display 40 for simultaneously showing multiple tomographic views, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to equip the Khutoryansky with such means to speed up medical diagnosis.

Applicant's arguments filed February 25, 2002 have been fully considered but they are not deemed to be persuasive. While applicant's written description of his invention is flawed to the extent that the metes and bounds of the terms "servo-tomo function"

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are unclear, lines 54-59 of column 2 of the patent state

The system is designed in such a way as to eliminate mechanical coupling between system components. The focal planes for linear tomography are selected electronically so that a fulcrum tower is not required. All motions of system components are synchronized in dependence upon the tomographic technique selected by the operator.

and this seems to fit applicant's portrayal of the "function" precisely. Applicant has provided a sketchy description of a function that is to be performed, but he fails to reveal where one can find a description of apparatus capable of accomplishing same. This is particularly relevant since "servo-tomo function" is not an established term of art as a computer search for it in all US patents yielded no hits and because this feature is essential to an understanding of the limits of claims 1-9 and 19.

Claim 1 reads on Khutoryansky as follows with comments in parentheses indicating corresponding teachings in the patent:

identifying scan parameters designating slices of interest from a patient anatomy (line 4 of column 5 to line 38 of column 6 describe operation of the control panel 700 and list various tomographic parameters that must be identified such as sweep angle (709/710) which determines slice thickness as depicted by the table at line 30 of column 5, fulcrum or slice position (706/714), scan speed (711/712/713), number of slices to be imaged (lines 59-62 of column 5) and scanning direction (716));

scanning the patient in a first direction using a servo-tomo function based on said scan parameters to obtain a first

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x-ray image(lines 54-59 of column 2); and

scanning the patient in a second direction utilizing the servo-tomo function based on said scan parameters to obtain a second x-ray image (lines 54-59 of column 2).

Lines 18 et seq of column 7 describe a sequence of settings to be made. Khutoryansky describes imaging multiple slices (lines 69-52 of column 5 and lines 19-22 of column 8) and scanning in both directions via switches 716 (lines 64 of column 5 to line 11 of column 6).

Claim 2 recites various tomographic parameters all of which have been discussed above except exposure time which is covered in lines 41-44 of column 7.

Claims 3 and 4 recite preparation positions which are the source locations at the beginning and end of the sweep and which are dictated by the sweep angle. The patent addresses these positions in lines 54-58 of column 3

In tomographic mode of operation, system component positions are monitored through the tomo control module 217, and the x-ray generator control 218 controls the points during the tomographic sweep at which x-ray exposure begins and ends.

and lines 28-31 of column 6.

Claim 5 recites travel distances and sweep velocities. In Khutoryansky sweep velocity is prescribed by switches 711, and the travel distance is calculated by controller 201 in response to the sweep angle set in tomo control 217 via panel 219/700.

claim 6 recites simultaneous display of forward and reverse images which step is not taught by Khutoryansky, but simultaneous

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display was common and is taught by Sata and would have been obvious for its diagnostic versatility.

Claim 7 additionally recites storing images which is common practice in medical imaging so that they may be reviewed at a later time by physicians.

Claim 8 recites loading precalculated travel distance and sweep angle parameters before a scan. Clearly the relationship between sweep angle and travel distance are stored in controllers 217 and 219 which stored parameters are selected by activation of switches 709 and 711 prior to tomographic imaging. If this data was not stored, these switches could not produce the motion described by the patent.

Claim 9 recites modifying scan parameters before scanning a next image. This claim almost seems silly. Why would one take another image without changing parameters as this would burden the patient with additional radiation exposure without acquiring new data?.

Contrary to applicant's assertions that Khutoryansky does not provide for acquiring multiple slice images, this is precisely the function of the AUTO tomographic mode described in lines 19-22 of column 8 and lines 52-62 of column 5. In this mode the system automatically images the number of slices prescribed by the operator at predetermined focal plane increments:

When tomographic mode is selected (TOMO ON), the fulcrum height is incremented after each exposure in predetermined steps for

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the number of steps selected for the procedure.

This is an explicit teaching that multiple slice images are to be obtained.

The limitations in claims 11 and 13-21 are similar to those already discussed with respect to claims 1-9.

Claim 12 recites prompting the operator for scan parameters, and lines 4-17 of column 5 of the patent explain that various indicators blink as a prompt for the operator to input scan parameters.

Applicant's amendment necessitated the new grounds of rejection. Accordingly, THIS ACTION IS MADE FINAL. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Any inquiry concerning this communication should be directed to Examiner Church at telephone number (703) 308-4861.



CRAIG E. CHURCH
Senior Examiner
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